

Yogeshwaran A

B.Tech – Computer Science and Engineering
NIT Trichy

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Education

Year	Degree/Examination	Institution	CGPA
2023–Present	B.Tech – Computer Science and Engineering	NIT, Trichy	8.4

Experience

AI/Software Engineering Intern, BNY

May 2026

- Built an **AI-powered production incident investigation platform** that automates debugging across **databases, Splunk logs, and GitHub source code**, reducing investigation time to approximately **5–10 minutes**.
- Designed a **two-agent architecture** with a RAG Agent and Main Agent to correlate database findings, logs, source code, root-cause analysis, and downstream application impact.
- Developed an **MCP-based onboarding layer** allowing new teams to configure investigation workflows through a UI without modifying agent code.
- Built a **real-time trade-flow tracker** with Microsoft Teams and Outlook alerting; integrated **SonarQube** with 98% coverage and **Zephyr** for test management.

Founder, Bites

Jan 2025 – Present

- Built and operated a **campus food-delivery platform** with vendor management, authentication, order management, and responsive web workflows.
- Implemented **WebSocket-based real-time order tracking** and dynamic order-status updates for customers and vendors.
- Developed backend and product functionality using **Node.js, Next.js, MongoDB, and Python-backed services**.

Projects

The Analyst Hive – Multi-Agent AI Stock Research System

2026

- Built a **multi-agent AI stock research platform** in Python simulating an institutional investment committee with Fundamental, Quantitative, News & Macro, and Risk agents executing in parallel.
- Implemented **FastAPI asynchronous orchestration** and a Consensus Engine to synthesize agent outputs into a final investment thesis.
- Built a **RAG pipeline** over SEC 10-K and 10-Q filings using **Gemini embeddings, PostgreSQL, and pgvector**.
- Integrated **Yahoo Finance, FMP, and FRED APIs** with claim-level lineage and hallucination verification through a **React/TypeScript real-time frontend**.

ADHDDeepNet – Explainable EEG-Based ADHD Detection

2026

- Developed an explainable **deep-learning EEG classification system** using 19-channel resting-state EEG data containing 4,173 epochs.
- Designed a compact **EEGNet-based architecture** with Squeeze-Excitation attention and multi-scale temporal convolutions, improving **AUC-ROC from 0.833 to 0.875**.
- Reduced the model to approximately **27K parameters and 438 KB**, while applying augmentation and **subject-level 10-fold GroupKFold validation**.
- Applied **SHAP explainability** to generate automated diagnostic reports and interpretable model outputs.

Lynx Web – Student Portal ([Website](#))

Oct 2024

- Built and deployed a **MERN-stack student portal** serving **7,000+ NIT Trichy students** for event discovery and registration.
- Implemented **OTP-based authentication**, session management, and REST APIs using React, Node.js, Express, and MongoDB.

- Added **Socket.IO real-time notifications**, increasing signup completions by **40%** and overall event participation by **30%**.

Internship Registration Portal – NIT Trichy ([GitHub](#))

May 2025

- Built a **full-stack internship registration platform** with separate workflows for **students, faculty, and administrators**.
- Developed **REST APIs, authentication, role-based dashboards, dynamic workflows, and MongoDB-backed data management** using React, Node.js, Express, and MongoDB.
- Implemented application, review, approval, and document-management workflows for institutional internship operations.

Technical Skills

- **Programming Languages:** Python, C++, C, JavaScript, Golang, SQL
- **Backend & APIs:** Node.js, Express, FastAPI, REST APIs, WebSockets, Socket.IO, MCP
- **Frontend:** React, Next.js, TypeScript, HTML, CSS
- **Databases & Infrastructure:** MongoDB, PostgreSQL, pgvector, Git, GitHub, Docker, Linux, SonarQube
- **AI / Machine Learning:** RAG, LLM Agents, Gemini, embeddings, NLP, deep learning, computer vision, few-shot learning, SHAP, TensorFlow, scikit-learn
- **Security & Tools:** Burp Suite, Nmap, Metasploit, Postman
- **Cloud / Deployment:** Vercel, real-time systems, REST API deployment

Achievements

- **Smart India Hackathon 2024:** Cleared Rounds 1 and 2, placing in the top 10% among approximately 300 teams.

Certification

- **Google Cybersecurity Professional Certificate** – In Progress